

ANDROID BASED MOBILE APPLICATION FOR PASSENGERS IN RAILWAY TRAVEL

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Abstract– Railway is one of the popular transport services in India. Indian railways provide the following services like Online ticket booking, Train Schedule, Tatkal Scheme, SMS Service, Current Booking Availability and Train Berth Availability. This project mainly aims on developing an android based mobile application for providing certain facilities which is used by the passengers in railway sector.

The main benefit of this project is passengers can get their e-ticket for unreserved compartment and platform. They can also order their food and get it delivered prior to or while travelling. In addition we planned to provide the notification to the passengers ten minutes ahead of arrival at the destination. Our application will have the provision to alert the specific authorities.

Index Terms–Android,Railway Ticketing, Passenger Friendly facilities

I.INTRODUCTION

India has some of the most spectacular and vast rail journeys in the world. Rail transport is a commonly used mode of transportation in India. Almost all rail operations are handled by a state-owned organization, Indian Railways, Ministry of Railways. The rail network traverses the length and breadth of the country. Indian railways provide the following services like Online ticket booking, Train Schedule, Tatkal Scheme,

SMS Service, Current Booking Availability, and Train Berth Availability. The ticketing system has been computerized to a large extent, and there are reserved as well as unreserved categories of tickets. And also SMS Service include the following as, Train Alert, PNR Status, Train Status, Seat Availability, Train Schedule, Train Information, Train Time Table, Train Fare and etc. The challenges which are faced currently in the ticketing system mainly comprises of formation of queues for buying the tickets for General Compartment and Platform. To avoid these problems we are designing to provide online ticketing system for both general compartment and platform. In addition to this we are providing some user-friendly facilities like Ordering Food, medical and security services through mobile application.

II.LITERATURE REVIEW

This part of the document include two things.

1)Android sub-Urban railway ticketing using GPS as Ticket Checker: Android Suburban Railway(ASR) ticketing is to buy the suburban tickets which is the most difficult when compared to booking the long journey tickets through „M-ticket“. It uses the smart phone’s GPS facility to authenticate and erase ticket automatically after a specific interval of time when user reaches to the destination. User’s ticket information is stored in a CLOUD database for security.

2) Regarding this work, took a survey in railway station and gathered the following information related to this paper.

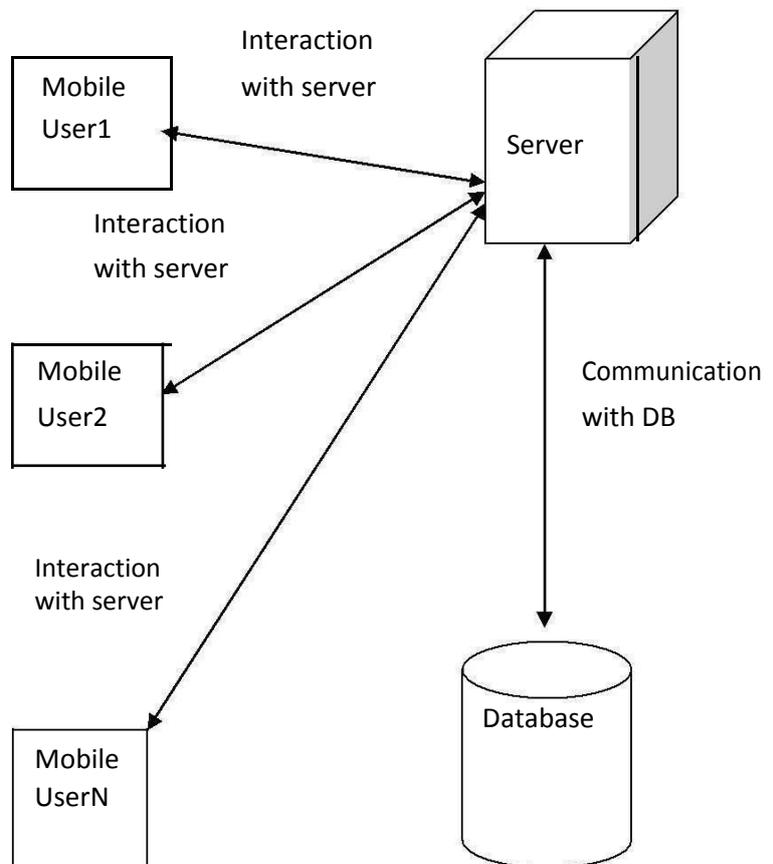
- Tatkal Services

- Server Details
- Reservation Information
 - Unreserved ticketing system
 - Computerized reservation system
- Season ticket
- DTES(DIVISIONAL TRAIN ENQUIRY SYSTEM)
- NTES(NATIONAL TRAIN ENQUIRY SYSTEM)
- Food Services
- Medical Facilities in Train
- Security Facilities in Train

IV. SYSTEM DESIGN

Figure shows the system architecture of the proposed system, such as a Mobile users communicate with the server through the Android Application to get the user friendly facilities like Ordering food, E-ticket, Security and medical service. Then Server Communicate with the Database which handles the all information storage and retrieval related the Mobile Application.

Fig.1.System Architecture



III.NEED OF THIS APPLICATION SOFTWARE

The main scope of the project is to provide certain facilities which are used by the passengers in railway sector.

While travelling, passenger should face the following kind of issues.

1. Passengers only get the e-ticket for Reserved Compartment
2. No way to get the e-ticket for urgent journey
3. E-ticket Booking is based on the Availability
4. There is no guarantee for e-ticket
5. Security service is less while travelling
6. Medical Emergency service is less while traveling

To overcome this problem, the proposed system mainly uses

Smart phones that support Android application, to provide certain facilities for passenger in railway travel. By using this application Passengers can get their e-ticket for General/ Unreserved compartment and platform and also order their food prior to or while travelling. And also this application provides the notification to the passengers ten minutes ahead of arrival at destination. This system will have the provision to alert the specific authorities in case of any medical emergency and security related issues while travelling. This paper mainly focused for passenger satisfaction and fulfillment of traveling and it is flexible and portable.

This Mobile Application include five facilities like,

- 1)E-Ticket
- 2)Food Ordering
- 3)Notification

- 4) Security Service
- 5) Medical Service

Now we see in detail about mobile facilities.

1) E-TICKET:

By using this service, Passenger can get their tickets for general compartment and platform instantly. This method is useful when queue is length and urgent journey. And also this provides the proof for the ticket through the authorized message from railway office. This module needs the details about the passenger name, source location, destination location, address and mobile number. These details are stored in Server side and Server take the responsibilities.

2) FOOD ORDERING:

By using this service, Passenger can order their foods while travelling and get those in a upcoming station. The ordered Foods are delivered at the passenger place. The money for the foods is pay by the way of Net Banking, Money transaction and Cash on Delivery. Also we can provide the way to give the feedback about the quality of food to the railway office for monitoring purpose.

3) NOTIFICATION:

This Module helps to provide the notification to the passengers ten minutes ahead of arrival at destination. Based on the Passenger data our apps communicate with the Server then automatically make a ring or vibration to indicate the upcoming station. This method is most helpful when journey for long distance and night time.

4) SECURITY SERVICE:

Passenger can have the facility to inform the railway police through this application. In case of any security issues while travelling passenger can inform the railway police immediately by specifying the compartment and seat number through the message. The messages send to the railway police

based on the timing. This method is useful when passenger facing any security related problem.

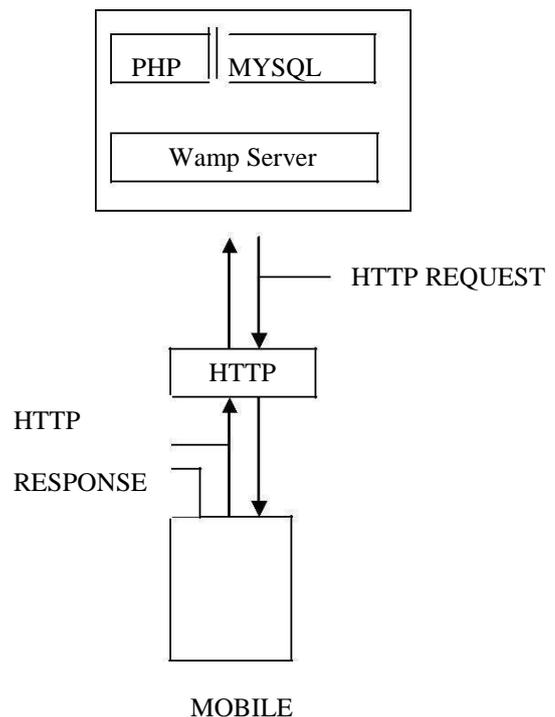
5) MEDICAL SERVICE:

In case of any health problems while travelling, Passenger can have the facility to inform the medical representatives through this application by specifying the compartment number and seat number. This method is useful when passenger facing any health issue problem. Whenever passenger clicks the ok button this application communicate with the server and send the message to the appropriate number.

IV. DEVELOPMENT METHODOLOGIES

The following figure illustrate the development methodologies of this paper.

Fig.1. System Methodologies



1) JSON PARSING

JSON (JavaScript Object Notation) is a programming language. It is minimal, textual, and a subset of JavaScript. It is an alternative to XML. In android, application uses JSON to

transmit data over networks and JSON data is parsed, while it is received from cloud servers and from somewhere else. Android provides support to parse the JSON object and array. Android provides four different classes to manipulate JSON data. These classes are JSONArray, JSONObject, JSONStringer and JSONTokenizer. It includes the following components like array, object, key and value.

2)JSON OBJECT

A JSON object contains key/value pairs like map. The keys are strings and the values are the JSON types. Keys and values are separated by comma. The { (curly brace) represents the json object. A JSONObject constructor can be used to convert an external form JSON text into an internal form whose values can be retrieved with the get and opt methods, or to convert values into a JSON text using the put and toString methods. A get method returns a value if one can be found, and throws an exception if one cannot be found. An opt method returns a default value instead of throwing an exception, and so is useful for obtaining optional values.

3)JSON ARRAY

A JSONArray is an ordered sequence of values. Its external text form is a string wrapped in square brackets with commas separating the values. The internal form is an object having get and opt methods for accessing the values by index, and put methods for adding or replacing values. The values can be any of these types like Boolean, JSONArray, JSONObject, Number, String.

V.CONCLUSION

Rail transport is a commonly used mode of transportation in India and the rail network traverses the length and breadth of the country. This system provides certain facilities which are used by the passengers in railway sector for their convenience. By using this application Passengers can get their e-ticket for General/ (UR) compartment and platform and also order their food prior to or

while travelling. And also this application provides the notification to the passengers ten minutes ahead of arrival at destination. This system will have the provision to alert the specific authorities in case of any medical emergency and security related issues while travelling.

REFERENCES

- [1] Sana Khoja, Maithilee Kadam "ANDROID SUB-URBAN RAILWAY TICKET USING GPS AS TICKET CHECKER" International Journal of Technical Research and Applications, 2014.
- [2] S.Vigneshwaran, TicketExaminer, Tirupur Railway Station.
- [3] <http://gadgets.ndtv.com/apps/news/indian-railways-launches-ntes-app-for-tracking-trains-and-real-time-queries>.
- [4] Reto Meier (2009)" Professional Android Application Development"- Wiley Publishing Inc.
- [5] Wallace Jackson's (2011) "Android Apps for Absolute Beginners" Apress Publications.
- [6] [http://www-irctc.blogspot.in/2009/07/irctc-mobile Applicationdownload.html](http://www-irctc.blogspot.in/2009/07/irctc-mobile-applicationdownload.html)
- [7] <http://indianrailway.gov.in>
- [8] <https://developer.android.com/training/building-content-Sharing.html>